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Dkt. No. 51320-AB/JPW/SHS

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Graham P. Allaway, et al.

Seriàl No. : 09/852,238

Filed : May 9, 2001

For : USES OF A CHEMOKINE RECEPTOR FOR

INHIBITING HIV-1 INFECTION

1185 Avenue of the Americas New York, New York 10036

January 9, 2002

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

## INFORMATION DISCLOSURE STATEMENT

In accordance with their duty of disclosure under 37 C.F.R. §1.56, applicants direct the Examiner's attention to the following references which are listed on the PTO-1449 form attached hereto as **Exhibit A.** A copy of below listed reference 54 is attached hereto as **Exhibit 1**.

- 1. U.S. Patent No. 5,440,021, filed February 25, 1994, issued on August 5, 1995, Anan Chuntharapai, et al.;
- 2. U.S. Patent No. 5,504,003, filed March 8, 1994, issued April 2, 1996, Haodong Li, et al.;
- 3. Alkhatib, Ghalb, et al., (1996) "CC CKR5: A RANTES, MIP- $1\alpha$ , MIP-16 Receptor as a Fusion Cofactor for Macrophage-Tropic HIV-1", Science 272:1955-1958;
- 4. Arenzana-Selsdedos, Fernando, et al., (1996) "HIV blocked by chemokine antagonist" Nature 383:400;

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- 6. Brenner, T.J., et al., (1991) "Relation between HIV-1 syncytium inhibition antibodies and clinical outcome in children", The Lancet, 337:1001-1005;
- 7. Choe, Hyeryun, et al., (1996), "The 6Chemokine Receptors CCR3 and CCR5 Facilitate Infection by Primary HIV-1 Isolates" Cell, 85:1135-1148;
- 8. Cocchi, Florenza, et al., (1995), "Identification of RANTES, MIP-1 $\alpha$ , and MIP-1 $\theta$  as the Major HIV-Suppressive Factors provided by CD8+ T cells" <u>Science</u> 270:1811-1815;
- 9. De Clercq, et al., (1994), "Highly potent and selective inhibition of Human Immunodeficiency virus by the bicyclam derivative JM3100" Antimicrobial Agents and Chemotherapy 38 4:668-674;
- 10. DeClercq, E., (1995), "Antiviral therapy for human immunodeficiency virus infections", Clinical Microbiology Reviews 8 (2):200-239;
- 11. Doranz, et al., (1996), "A dual-tropic primary HIV-1 isolate that uses fusin and the 6-chemokine receptors CKR-5, CKR-3, and CKR-2b as fusin cofactors", Cell 85:1149-1158;
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  Journal of Biological Chemistry, 272:16166-16169;
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- 18. Litwin, et al., (1996), "Human Immunodeficiency virus type 1 membrane fusin mediated by a laboratory-adapted strain and a primary isolate analyzed by resonance energy transfer", <u>Journal of Virology</u> 70(9):6437-6441;
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- 26. Wells, Timothy, N.C., et al., (1996), "Selectivity and antagonism of chemokine receptors", <u>Journal of Leukocyte</u>
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- 34. Eugen-Olsen, J., et al., 1997, Heterozygosity for a deletion in the CKR-5 gene leads to prolonged AIDS-free survival and slower CD4 T=cell decline in a cohort of HIV-seropositive individuals, <u>AIDS</u> 11:305-310.;
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- 53. U.S. Patent No. 5,126,433, filed June, 30, 1992, Maddon, et al.
- 54. International Publication Number WO 79/47319, International Publication Date December 18, 1997, PCT International Application No. PCT/US97/10619, filed June 13, 1997 (Exhibit 1).

The subject application is a continuation application of U.S. Serial No. 09/724,105, filed November 28, 2000, which is a continuation of U.S. Serial No. 08/874,618, filed June 13, 1997. The above listed references 1-29 were submitted and considered

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by the United States Patent and Trademark Office in an Information Disclosure Statement filed January 4, 1999 in connection with U.S. Serial No.08/874,618. The above listed references 37-45 were submitted to and considered by the United States Patent and Trademark Office in a Supplemental Information Disclosure Statement filed

January 19, 2001 in connection with U.S. Serial No. 08/874,618. The above listed references 46-53 were cited in an Office Action issued September 2, 1998 in connection with U.S. Serial No. 08/874,618. The above listed references 30-36 were cited in an Office Action issued November 19, 1999 in connection with U.S. Serial No. 08/874,618. Accordingly, under 37 C.F.R. §1.98(d) copies of these references are not required to be provided to the United States Patent and Trademark Office, since they were previously cited by, or submitted to, the United States Patent and Trademark Office in an application relied upon for an earlier filing date under 35 U.S.C. §120. A copy of the above-listed reference is attached hereto as Exhibit 1.

## Summary

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorneys invite the Examiner to telephone either of them at the number provided below.

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Pursuant to 37 C.F.R. §1.97(b)(3), no fee is deemed necessary in connection with the filing of this Information Disclosure Statement. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

-9-02

Date

John P. White

Reg. No. 28,678 Spencer H. Schneider

Reg. No. 45,923

John P. White Registration No. 28,678 Spencer H. Schneider Registration No. 45,923 Attorneys for Applicant(s) Cooper & Dunham, LLP 1185 Avenue of the Americas New York, New York 10036

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Form PTO-1449

## **U.S. Department of Commerce Patent and Trademark Office**

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Applicants

FORMATION DISCLOSURE CITATION (Use several sheets if necessary)

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\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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|               |      |         | -        |  |     | -        |                           | 6) "CD4-dependent, ant<br>R-5" <i>Nature</i> 384:184-18     | •                                   | sitive interac       | tions be                      | tween       |  |  |
|               |      |         |          |  |     |          |                           | 996) "Selectivity and a 59:53-60;                           | ntagonisn                           | n of chemokir        | ne recep                      | tors"       |  |  |
|               |      |         |          |  |     |          |                           | -induced interaction of 3," <i>Nature</i> 384:179-183       |                                     | HIV-1 gp120 g        | glycopro                      | oteins with |  |  |
|               |      |         | -        |  |     | -        | •                         | 5 Levels and Expressio Vitro" <i>J. Exp. Med.</i> 185       |                                     |                      | h Infect                      | ability by  |  |  |
|               |      |         |          |  |     |          |                           | ucture/Activity Analysis<br>nesis," <i>The Journal of B</i> |                                     |                      |                               |             |  |  |
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Sheet 4 of 6

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